GENERAL REQUIREMENTS

1. SCOPE

1.1 Scope. This standard specification describes the general requirements for the Contractor to conduct availabilities for Coast Guard vessels.

2. APPLICABLE DOCUMENTS

Commercial Item Description (CID), A-A-55308, May 1997, Cloth and Strip, Laminated or Coated, Vinyl Nylon or Polyester, High Strength, Flexible

MIL-STD-1310, Jun 1996, Standard Practice for Shipboard Bonding, Grounding and other Techniques for Electromagnetic Compatibility and Safety

Coast Guard Maintenance and Logistics Command Atlantic (MLCA) Standard Specification 0740_STD, 2004 Edition, Welding and Allied Processes

Coast Guard Commandant Instruction (COMDTINST) M10360.3 (Series), Coatings and Color Manual

Code of Federal Regulations (CFR) Title 29, Part 1910, Section 94, Jul 2005, Ventilation

Code of Federal Regulations (CFR) Title 29, Part 1915, Jul 2005, Occupational Safety and Health Standards for Shipyard Employment

Code of Federal Regulations (CFR) Title 29, Part 1926, Jul 2005, Safety and Health Regulations for Construction

Code of Federal Regulations (CFR) Title 40, Jul 2005, Chapter I, Environmental Protection Agency

Coast Guard Fleet Drawing FL 6701-110, Rev F, EM and RFI Bonding and Grounding, Installation Details and Radiation Hazard Signs, Topside-Main Deck and Above

American National Standards Institute / American Society Heating Refrigeration and Air Conditioning (ANSI/ASHRAE) 62.1, 2004, Ventilation for Acceptable Indoor Air Quality, Section 6.1 (Ventilation Rate Procedure)

American Society for Heating Refrigeration and Air Conditioning (ASHRAE) Standard 26, 1996, Mechanical Refrigeration and Air-Conditioning Installations aboard Ship, Paragraph 4.9 (Ventilation)

American Society for Testing and Materials (ASTM) C1028, 1996, Standard Test Method For Determining The Static Coefficient Of Friction Of Ceramic Tile And Other Like Surfaces By The Horizontal Dynamometer Pull-Meter Method

American Society for Testing and Materials (ASTM) D1400, 2000, Standard Test Method for Nondestructive Measurement of Dry Film Thickness of Nonconductive Coatings Applied to a Nonferrous Metal Base

American Society for Testing and Materials (ASTM) D3359, 2002, Standard Test Methods for Measuring Adhesion by Tape Test

American Society for Testing and Materials (ASTM) D3884, 2002, Standard Guide for Abrasion Resistance of Textile Fabrics (Rotary Platform, Double-Head Method

American Society for Testing and Materials (ASTM) D3951, Reapproved 2004, Standard Practice for Commercial Packaging

American Society for Testing and Materials (ASTM) D4414, Reapproved 2001, Standard Practice for Measurement of Wet Film Thickness by Notch Gages

American Society for Testing and Materials (ASTM) D4417, 2003, Standard Test Methods for Field Measurement of Surface Profile of Blast Cleaned Steel

American Society for Testing and Materials (ASTM) D5162, 2001, Standard Practice for Discontinuity (Holiday) Testing Of Nonconductive Protective Coating on Metallic Substrates

American Society for Testing and Materials (ASTM) E648, 2003, Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source

American Society for Testing and Materials (ASTM) E662, 2001, Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials

American Society for Testing and Materials (ASTM) F718, Reapproved 2005, Standard for Shipbuilders and Marine Paints and Coatings Product/ Procedure Data Sheet

American Society for Testing and Materials (ASTM) E648, 2004, Standard Test Method For Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source

International Standard Organization (ISO) 8502-9, 1998, Field Method for Soluble Salt by Conductivity Measurement

National Fire Protection Association (NFPA) 70, 2005, National Electric Code (NEC)

National Fire Protection Association (NFPA) 312, 2005, Fire Protection of Vessels during Construction, Repair, and Lay-Up, Chapter 2 (Construction, Conversion, and Repair)

The Society for Protective Coatings (SSPC) Paint Application Specification No. 1 (SSPC-PA Guide 1), 2000, Shop, Field, and Maintenance Painting of Steel

The Society for Protective Coatings (SSPC) Paint Application Specification No. 2 (SSPC-PA Guide 2), 2004, Measurement of Dry Coating Thickness with Magnetic Gages

The Society for Protective Coatings (SSPC) Paint Application Specification No. 3 (SSPC-PA Guide 3), 1995, A Guide to Safety in Paint Application

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.1 (SSPC-SP 1), 2004, Solvent Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.2 (SSPC-SP 2), 2004, Hand Tool Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.3 (SSPC-SP 3), 2004, Power Tool Cleaning

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 5/NACE No.1, 2004, White Metal Blast Cleaning

The Society for Protective Coatings (SSPC)/NACE International (NACE), Joint Surface Preparation Standard SSPC-SP 10/NACE No.2, 2004, Near-White Blast Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.11 (SSPC-SP 11), 2004, Power Tool Cleaning to Bare Metal

The Society for Protective Coatings (SSPC)/NACE International (NACE) Joint Surface Preparation Standard SSPC-SP 14/NACE No. 8, 2004, Industrial Blast Cleaning

The Society for Protective Coatings (SSPC) Surface Preparation Specification No.15 (SSPC-SP 15), 2004, Commercial Grade Power Tool Cleaning

The Society for Protective Coatings (SSPC))/NACE International (NACE) Joint Standard VIS 4 /NACE No. 7, 2001, Visual Reference Photographs for Steel Cleaned by Waterjetting

The Society for Protective Coatings (SSPC) VIS 1, 2004, Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning

The Society for Protective Coatings (SSPC) VIS 3, 2004, Guide and Reference Photographs for Steel Surfaces Prepared by Hand and Power Tool Cleaning

The Society for Protective Coatings (SSPC) QP 1, 2004, Standard Procedure for Evaluating Painting Contractors (Field Application to Complex Industrial Structures)

3. REQUIREMENTS

3.1 Applicability. The Contractor shall perform all tasks required during the availability, in accordance with this "General Requirements" standard specification, and as specified in the text of the specification package.

3.2 Order of precedence. The Contractor shall be aware of the following:

3.2.1 In the event of a conflict between the text of the specification and applicable references, order of precedence shall be as follows:

1. The text of the specification.
2. Other contract documents.
3. Drawings.
4. Publications and industry standards.
5. Federal and military specifications and standards.

3.2.2 Nothing in the above-listed documents, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3.3 Planning document. The Contractor shall accomplish the following:

3.3.1 Provide a legible Planning Document (PD) with the following characteristics:

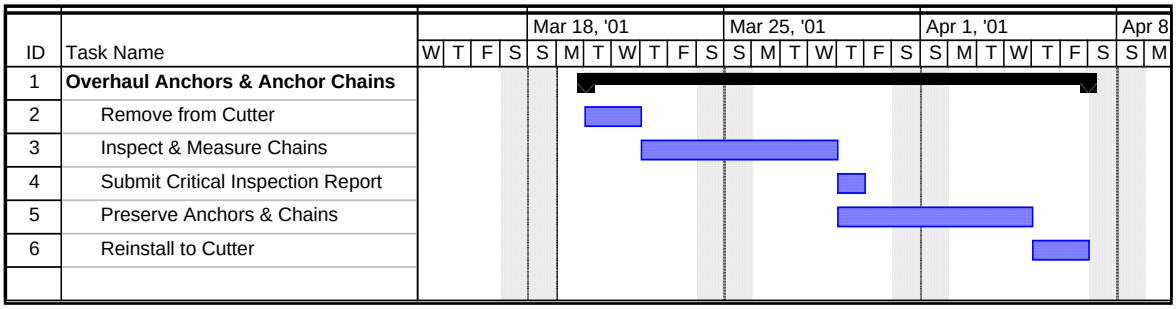
- Graphical in format (see Fig. 1 (Sample Planning Document Submittal)).
- Shows overall period of performance for each CLIN, with start and stop dates of major sub-tasks.
- Contains due dates for Critical Inspection Reports (CIR) and any events requiring Coast Guard Inspector presence.

3.3.2 Submit 3 copies of the PD to the COR at the Arrival Conference and at all weekly Progress Meetings.

NOTICE!

A separate document, specifically prepared for the Government is not desired or required. A copy or summary of the Contractor's internal scheduling document is preferred.

FIG. 1 - SAMPLE PLANNING DOCUMENT SUBMITTAL.



3.4 Contractor-furnished equipment or materials. The Contractor shall, in general, ensure that all Contractor-furnished equipment or materials are: new, unused, and have un-expired shelf-life dates. Utilize recoverable materials as practicable in accordance with the Environmental Protection Agency (EPA) guideline recommendations.

3.5 Government-furnished equipment. The Contractor shall be aware that:

- All Government-furnished equipment (GFE) will be identified/listed in Section 5 of applicable work items, and consolidated on a separate page titled "List of Government-furnished Property", in the specification package.
- The listed GFE may also be annotated with the following symbols, when applicable:

SYMBOL	DEFINITION
"*"	Government-loaned property, which shall be returned to the vessel upon completion of the availability.
"**"	New or refurbished equipment that the Government may provide for installation in place of existing equipment.
"***"	Government-furnished property, which is to be supplied by either the vessel, Electronic Systems Support Unit (ESU) or local Electronic Support Detachment (ESD).

3.5.1 Government-loaned equipment. Return the Government-loaned property in a same condition as when received, excluding the normal wear and tear. Repair or renew all equipment that are damaged due to improper use, when requested by the COR.

3.5.2 Mandatory turn-in items. For each removed equipment/component that is identified as a MTI item in the specification package, accomplish the following:

3.5.2.1 Package the item in accordance with ASTM D3951; ensure that all surfaces subject to corrosion, including internal hollow spaces, are coated with a thin film of corrosion preventative compound, as applicable. Install all blanks or securing hardware provided with the replacement item. In addition, wrap and seal all weather-exposed surfaces with heavy duty, weather/water-proofed, barrier material.

NOTICE!

The Contractor may use the original crate or shipping box, if all previous shipping information is permanently covered or removed.

3.5.2.2 Temporarily store the item, to prevent damage, prior to shipping; work with the Property Administrator (PA) to ensure that all necessary turn-in documents are properly completed and enclosed with the item. Provide heavy lifting services, as applicable, to load item onto a Government-provide vehicle.

3.6 Inspection requirements.

3.6.1 Advance notice for Coast Guard inspection. The Contractor shall provide at least 24 hours notice to the COR for all inspections or tests that require Coast Guard Inspector presence.

3.6.2 Inspection report particulars. The Contractor shall do the following:

3.6.2.1 Time of submission. Submit condition found reports (CFRs) for all inspections, as follows:

- Critical inspection reports: Submit critical inspection reports (CIRs), when required in particular work items, within the first 25 percent of the availability contract period, and within 24 hours after completing the specified inspections.
- Unexpected condition reports: Submit CFRs for unexpected conditions within 24 hours of discovery.
- Routine inspection reports: Submit CFRs for all other routine inspections within the first 40 percent of the availability contract period, and within 24 hours after completing the specified inspections.

3.6.2.2 Report contents. Include the following details, at a minimum, in each CFR, to facilitate the contract-change process:

- Sequential number to indicate order of submission.
- Contract Line Item Number (CLIN), SubCLIN (e.g. "AA"), and title to which the condition-found report relates (for example: 0001(AA) Remove, Inspect, and Reinstall Propeller Shaft).
- A clear description of the condition found.
- A recommended repair to correct the defective condition.
- Indication whether Coast Guard contractual action is required or if the report is provided "for information only."
- When Coast Guard action is required, indicate the response time needed to avoid a contract extension and how many additional days past the scheduled completion date the added work will require.

- Space on the form for the vessel's Engineering Petty Officer (EPO) or Engineering Officer (EO) to make comments.
- Signature of the Contractor Ship Superintendent, including date of signature and condition-found report submission.

3.7 Occupational safety and environmental requirements.

3.7.1 Personnel and property protection - general. The Contractor shall comply with the below-specified requirements, in addition to all other applicable Federal, state, and local safety regulations, whether specified herein or not; to protect both Contractor and Government personnel and properties.

3.7.1.1 Temporary ventilation. Provide all equipment and services necessary, to ensure continuous positive ventilation in all spaces/compartments (affected directly and indirectly by contract work). Ventilate compartments in accordance with 29 CFR 1910.94, 1926.57, or 1926.353, as applicable; ANSI/ASHRAE 62.1, Section 6.1, and ASHRAE Std 26, Paragraph 4.9. When ventilation is shut down due to contract work, provide ventilation to manned compartments equivalent to the normal zonal ventilation rating for that space. Provide additional exhaust ventilation to spaces contaminated by fumes caused by contract work (welding, preservation, cleaning, adhesive application, etc…).

3.7.1.2 Safety requirements for confined or enclosed space entry and hot work.

3.7.1.2.1 Precaution for safe entry. Before entering a tank, void, and any other confined or enclosed space; and before performing manual cleaning and other cold work, the Contractor shall ensure that space is tested and certified "SAFE FOR WORKERS", in accordance with 29 CFR 1915.11-13.

3.7.1.2.2 Precaution for safe hot work. Before performing hot work in a confined or enclosed space, compartment below deck, and on a vessel component, the Contractor shall ensure that the space or component is certified "SAFE FOR HOT WORK" in accordance with 29 CFR 1915.14 and 1915.51-54.

3.7.1.2.3 Maintenance of safe conditions and warning signs. The Contractor shall maintain safe conditions, in accordance with 29 CFR 1915.15; ensure that testing is performed, as often as necessary, and all necessary measures (including, but not limited to opening, cleaning, and ventilating) are taken to maintain the safe conditions for the duration of the work being performed. In addition, ensure that Marine Chemist Certificates,

Shipyard Competent Person Log of Inspections, and suitable warning signs and labels are posted in view of all affected employees, in accordance with 29 CFR 1915.16.

3.7.1.3 Fire watch requirements.

3.7.1.3.1 Contractor provided fire watch personnel. Provide fire watch personnel with appropriate personal protective gear and necessary functioning equipment, on a per job basis, in accordance with NFPA 312, Chapter 2. Ensure that all Contractor welders, brazers, and cutters check in with the COR, with their Contractor-provided fire watch, prior to commencing any hotwork. Notify the COR upon the completion of hotwork.

3.7.1.3.2 Coast Guard fire watch personnel – provision of fire extinguishers. When fire watch is to be conducted by Coast Guard personnel in lieu of Contractor personnel, provide portable fire extinguishers, on a loan basis, for use by each assigned Coast Guard fire watch personnel. In addition, notify the COR at least 24 hours before hot work is begun, and ensure that all Contractor welders, brazers, and cutters check in with the COR, in order to be assigned with a Coast Guard fire watch personnel. Replace all discharged fire extinguishers with fully charged units, immediately after discharge.

NOTICE!

Fire watch determination is specified in the "General Requirements" item."

3.7.1.3.3 Compliance. Ensure that fire watch personnel and/or fully charged fire extinguishers are provided for all work as required by applicable law or regulation and any work activity meeting the definition of hot work. Be aware that this requirement applies to all work under the scope of the contract, subsequently modified into the contract, and any contract extension periods granted.

3.7.1.4 Tag-out. Tag-out all equipment and systems on which work is to be performed, in accordance with the following procedures:

3.7.1.4.1 Advance notification. Notify the COR, in writing, in order to coordinate the isolation, blanking, and tagging out procedures with the ship's force.

3.7.1.4.2 Usage of ship's documents. Use the ship's tag-out log and instructions, while coordinating with the COR, for proper placement of system tags, to ensure isolation of the components, piping, electrical circuits, or systems. Ensure enough tags are used to prevent system or component operation from all stations that could exercise control.

3.7.1.4.3 Signature. Sign a ship's tag-out record sheet and the tags after installation, to indicate repair activity satisfaction with the completeness of the tag-out process, and to alert personnel removing the tags that the Contractor's concurrence is required.

3.7.1.5 Shipboard bonding, grounding and shielding. Restore bonding, grounding or shielding to all equipment or structures which may have been disturbed due to any interference work, in accordance with MIL-STD-1310, and as shown on Coast Guard FL Drawing 6701-110.

3.7.1.6 Temporary covers for deck openings. Install a suitable plate or cover over each resulting deck opening, to prevent injury to personnel, and protect the vessel’s interior spaces and equipment against outside contamination. When covering a deck opening left from a removed hatch or scuttle, ensure that the cover is configured to allow normal passage of ship's personnel and equipment.

3.7.1.7 Temporary lines or rails. Install temporary lines or rails to replace all removed lifelines or liferails.

3.7.1.8 Temporary lighting. Install temporary lighting circuits, and equip all lamps used in temporary lighting with suitable fixtures or lamp holders with guards.

3.7.1.8.1 Protect flexible cords and cables from damage, by avoiding pinch points and routing to eliminate tripping hazards. Do not route lighting cords through watertight access.

3.7.1.8.2 Install suitable disconnecting switches or plug connectors, to permit disconnection of ungrounded conductors in each temporary lighting circuit.

3.7.1.9 Pier or wharf facility. Unless in drydock or at the vessel’s home pier, provide a secure pier or wharf during the performance period of the contract. Ensure that the pier or wharf has adequate clearance to safely accommodate the vessel being moored.

3.7.1.9.1 Water depth. Ensure that water depth is sufficient at the pier to allow the vessel's lowest underwater appendage to clear the bottom by at least two feet at:

- Ordinary low water mark on non-tidal rivers.
- Mean low tide conditions for tidal rivers and other navigable waterways (Bay, Lake, etc.).

3.7.1.9.2 Construction. Ensure that the pier or wharf is adequately constructed and conditioned to support weight-handling gear such as cranes, forklifts, and delivery vehicles that are necessary for the completion of the specification requirements; in addition ensure that load limitations are clearly identified and marked in a conspicuous location.

3.7.1.9.3 Collision protection. Provide a fender system to prevent the vessel's sides from chafing and colliding with the pier or wharf while moored at the Contractor's facility. Ensure that no other vessel is moored alongside the vessel without specific permission from the COR.

3.7.1.10 Vessel access. During work at the Contractor’s facility, provide a minimum of two means of access or egress to the vessel, in accordance with 29 CFR 1915, Subpart E; ensure that gangways, at a minimum, are as follows:

- Have adequate walking surface width and strength and be safely secured.
- Have a railing, with a mid-rail, on each side of the gangway, and a turn table if necessary.
- Have substantial steps properly secured and equipped with at least one handrail, when the upper end of the gangway rests on or is flush with the top of the bulwark of the dock.
- Have nets or other suitable protection on both sides, when there is a danger of personnel falling between the ship and the dock.
- Are kept properly trimmed at all times.
- Are adequately illuminated for their full length.

3.7.1.10.1 Gangway alternative. If gangways are not practicable, submit to the COR a proposal for a suitable alternative.

3.7.1.10.2 Obstructions. Do not lay obstructions on or across the means of access/egress. Do not pass loads or cargo over the means of access/egress while personnel are on them.

3.7.1.11 Asbestos and lead abatement compliance. When a work item requires the removal of asbestos-containing materials, or a coating system with a lead content in excess of 0.06 percent by weight, the Contractor shall accomplish the following, as applicable:

- Comply with all Occupational Safety and Health Administration (OSHA) requirements specified in 29 CFR 1915, Subpart B, as applicable to personnel exposure to asbestos.
- Comply with applicable OSHA requirements specified in 29 CFR 1915.1025 and 29 CFR 1926.62, as applicable to personnel exposure to lead.

3.7.2 Environmental protection compliance.

3.7.2.1 General compliance. The Contractor shall comply with all Federal environmental protection regulations outlined in 40 CFR, Chapter I, in addition to all other applicable state and local regulations regarding generated waste disposal. Submit the original copy of all waste disposal manifests to the COR within 24 hours after being disposed.

3.7.2.2 Containment during preservation tasks. The Contractor shall employ suitable containment methods to include, but not be limited to those listed below; to protect the air and waterways, during exterior surface preparation and coating application procedures.

- Utilize fixed or floating platforms as work surfaces, when working at the water surface. Ensure that platforms are also used to provide a surface to catch spent abrasives, slag, paint products, trash, and other debris/pollutants. Collect and dispose of all debris at the end of each work shift.
- Ensure that the bottom edges of free hanging barriers are weighted, in order to hold them in place during light breezes. When performing topside surface preparation procedures, ensure that all vessel openings and open areas between decks (including but not limited to scuppers, railings, freeing ports, ladders, and doorways) are properly covered, to prevent discharges into waterways.

- Control dust (from abrasive-blasting) and painting overspray, to minimize the spreading of wind blown materials. Perform frequent cleanups of affected areas, to prevent abrasive-blasting wastes from being washed into storm sewers or adjacent waterways.
- Direct all shipboard cooling water and process water away from contact with spent abrasives, paint and other debris. Ensure proper segregation and control of wastewater streams.
- Ensure that all mixing of paints and solvents is done in locations and under conditions such that no accidental spills will enter adjacent waterways.
- Do not mix paints and solvents in areas where spillage would have direct access to waterways, unless containment measures are employed. Employ suitable drip pans or other protective devices such as drop cloths or tarpaulin for all paint mixing and solvent transfer operations, unless the mixing operation is carried out in controlled areas away from storm drains, surface waters, shorelines and piers. Ensure absorbents are always on hand, to soak up liquid spills.
- Ensure that all paint and solvent spills are treated as oil spills and are prevented from reaching storm drains or deck drains and subsequently discharging into the water.

NOTICE!

Other forms of containment include, but are not limited to:

1. **Total or mini enclosures.**
2. **Use of surface preparation tools equipped with vacuum attachments.**
3. **Water injection into abrasive stream during abrasive blasting, to reduce/eliminate dust.**

3.8 Temporary sanitary and sewage facilities.

3.8.1 Sanitary facility – disruption of grey water system. When the shipboard grey water system is disrupted due to repairs required by contract work, the Contractor shall provide a sanitary facility, within a five minute walking distance from the vessel, to include the below-listed amenities:

- Two separate shower stalls with privacy screens.
- Two sinks with fresh hot and cold water.
- Minimum of two separate toilets with doors and privacy dividers.

- Four lockers (capable of being locked) and four chairs.
- Electrical convenience GFI receptacles, in accordance with NFPA 70, National Electric Code (NEC), located in vicinity of sinks.

NOTICE!

For 65' WYTL vessels, the facility shall only contain one shower, sink and toilet.

3.8.1.1 HVAC system. Ensure that the facility is equipped with heating, filtered ventilation, and air conditioning to maintain interior temperatures in the 65 to 78 degree Fahrenheit range, and has local climate control for the user.

3.8.1.2 Janitorial services. Ensure that the facility is cleaned at least once a day. Cleaning shall include, but not be limited to:

- Trash removal.
- Restocking of consumables (toilet paper, soap, etc.).
- Cleaning of toilets, showers and sinks.

NOTICE!

All plumbing repairs such as unclogging of toilets and shower and sinks drains are the responsibility of the Contractor.

3.8.1.3 Security. Ensure that the facility is capable of being locked from the outside and is also equipped, on the inside, with a suitable locking mechanism such as a sliding latch. Provide the COR with two keys for each lock.

3.8.1.4 Additional sanitary facility for mixed gender crew. If the vessel consists of a mixed gender crew, provide an additional equal facility that is completely separate, with its own entrance.

3.8.2 Sewage facilities – disruption of sewage system. When the shipboard toilets are unavailable due to contract work, and no permanent shore side facilities are available, the Contractor shall provide portable toilets as specified in Table I (Portable Toilets). Ensure that the toilets are:

- Located as close as possible to the vessel, at a distance not to exceed 100 yards.
- Cleaned and emptied daily, and restocked with consumables.

TABLE I. PORTABLE TOILETS.

VESSEL		PORTABLE TOILETS (QTY)
LENGTH (feet)	TYPE	
65	WLI	2
	WLR	2
	WYTL	1
75	WLIC	2
	WLR	2
87	WPB	2
100	WLI	2
	WLIC	2
110	WPB	2
123	WPB	2
140	WTGB	2
160	WLIC	2
175	WLM	3
180	WIX/WLB	5
210	WMEC	5
225	WLB	4
240	WAGB	4
270	WMEC	5
290	WAGB	5
295	WIX	3
378	WHEC	6

3.9 Interferences (general). The Contractor shall remove all interferences in way of specified work, as necessary, without regard to whether interferences are listed in applicable work items; restore all removed interferences upon completion of the specified work. The Contractor may exercise the discretion to work around certain interferences, when possible, so long as the specified work is successfully accomplished.

3.9.1 Operational testing. Witness an operational test of all electrical/electronic and mechanical equipment by the vessel crew, prior to disturbing or removing, and after reinstalling equipment.

3.9.2 Handling of restricted interferences. Before removing restricted interferences (see 5.1 (Definitions)), submit to the COR a written plan for the removal within 48 hours before that process is begun. Ensure the plan includes:

- Procedures for removing the interferences.
- Time at which interferences will be restored.
- Alternate arrangements, as necessary, to minimize the crew's inconvenience, or to alleviate the hazardous conditions.

3.9.3 Labeling and stowing requirements. The Contractor may stow removed interferences onboard the vessel; however, location and condition of stowage shall be approved by the COR. When stowing onboard the vessel is not practical, the Contractor shall stow all interferences in a suitable shore side stowage. Ensure that interferences are protected from weather and damage during removal, stowage, and reinstallation. In addition, ensure that all stowed items are tagged with removable tags, or stenciled with paint, with the following information:

- Vessel name.
- Location from which items have been removed.

3.9.4 System restoration. Ensure that all ship spaces or compartments, components, or equipment that are damaged or exposed due to interference removal are restored to original conditions in form, fit, function, and appearance. Renew the following components or disturbed portions of systems, as applicable, when reassembling or reinstalling affected systems:

- Gasket materials.
- Insulation material previously installed with adhesive.
- Deck covering systems.

3.10 Welding and brazing requirements. The Contractor shall perform all welding and allied processes, and nondestructive inspection (NDI), in accordance with Std Spec 0740_STD.

3.11 Preservation requirements - general. For all work involving surface preparation and coating application, the Contractor shall abide by the below requirements, in addition to all other requirements specific in applicable work items in the specification package.

3.11.1 Authorized coating systems. Preserve all ship structures, using applicable coating systems specified in Appendix A (Cutters and Boats Exterior Painting Systems) and Appendix B (Cutters and Boats Interior Painting Systems) of COMDTINST M10360.3, as applicable; or as otherwise specified in particular work items or MLCA Standard Specifications. When optional coating systems are specified in COMDTINST M10360.3 for a given area or component, select the coating system designated as “Option I" unless otherwise specified in applicable work items or MLCA Standard Specifications. Be aware that the requirements of COMDTINST M10360.3 also apply to preservation requirements in the following MLCA Standard specifications:

- 0740_STD.
- 1001_STD.
- 5000_STD.
- 6341_STD.

3.11.1.1 Brand name and color compliance. Ensure that all coating brands and colors are in conformance with Appendix C (Authorized Coatings for Use on Cutters and Boats) and Chapter 11 (Cutter and Boat Colors – Exterior and Interior), respectively, unless otherwise specified in particular work items.

3.11.1.2 Material receipt conformance. Ensure that all procured coating-related materials are delivered to the job site in original and unopened containers, with the following information/documentation:

- Product name or number.
- Manufacturer.
- Batch number.
- Date of manufacture.
- Shelf life.
- Product data sheet or ASTM F718 sheet.
- Material safety data sheet (MSDS).
- Certificate of compliance (COC).

3.11.1.3 Document submission. Submit copies of all product data sheets, MSDS, and COC to the COR, prior to commencement of work.

3.11.2 Material storage, handling, mixing, and application. Observe all coating manufacturers' recommended procedures, as well as the good painting practice recommendations outlined in SSPC-PA Guide 1, for all aspects involving storage, handling, mixing, and application of paint materials.

3.11.3 Personnel health and safety compliance. In addition to safety requirement specified in paragraph 3.7 (Occupational safety and environmental requirements), observe all personnel safety protective measures applicable to surface preparation and application of marine coatings, as specified in the following documents:

- Material safety data sheets (MSDS).
- SPC-PA Guide 3.

3.11.4 Protective measures. Take the following protective measures, as applicable, in addition to all other requirements that may be specified in individual work items, to prevent contamination and surface damage of non-affected shipboard equipment, components, and spaces during preservation procedures:

- Plug, blank, wrap, cover, seal, and mask equipment, components, cables, wire ways, boats, and openings (including scuppers and overboard discharges) using fire retardant/water repellent materials, and prevent entry of contaminants to machinery, winches, rigging, machinery surfaces, weapons systems, electrical equipment, electronic equipment, valves, vents not in use, and other openings.
- Install covering conforming to CID A-A-55308 and/or fire retardant plywood.
- Install fire retardant industrial filter material on the intake of supply and exhaust end of ventilation systems which will be in use.
- Remove existing and install new filter or clean the filter material when airflow is restricted.
- Ensure that all protective measures are in place prior to start of any contamination-producing operations, and are kept in place until the contamination-producing operations are complete.
- Install double curtain baffles at the entrances of each access where airborne contamination could occur during contamination-producing operations. Install a dirt-collecting mat on the deck directly inside each access.
- Ensure that temporary coverings are not removed during contamination-producing operations without permission of the COR.
- Inspect the integrity of the protective covering at the beginning of each shift in which contamination-producing operations will be accomplished. Ensure that equipment and machinery have not been infiltrated by contaminants. Notify the COR immediately by verbal means, followed on the next workday in writing, if contamination or surface damage has occurred. Reseal to prevent further entry of contaminants or surface damage.

- Remove protective coverings upon completion of contamination-producing operations and inspect for presence of contamination or surface damage. Notify the COR immediately by verbal means, followed on the next workday in writing, if contamination or surface damage has occurred, prior to removal of the contamination and repair of damage.

3.11.5 Substrate contamination prevention. Take extreme care to prevent contamination of prepared surfaces by materials, personnel, and equipment.

3.11.6 Ambient condition parameters. Ensure that the following ambient condition parameters are strictly adhered to, as applicable, unless otherwise allowed by particular coating system manufacturers:

- Coating materials must be maintained at a temperature range of 65 to 85°F, at all times.
- Work surface and surrounding temperature must be between 50 and 90°F, for water-thinned coatings, and 35 and 95°F for other coatings.
- Coatings must not be applied when the temperature is expected to drop to the freezing mark, before the coatings cure.
- Relative humidity must be less than or equal to 50 percent for confined spaces such as forepeak compartments, tanks, and voids; and not more than 85 percent for all other areas.
- Coatings must be applied only when surfaces are completely dry, and surface temperature at least 5°F above the dew point.

NOTICE!

Some of the Coatings specified in COMDTINST M10360.3, Appendices B and C as part of the authorized coating systems for "Bilges, Cofferdams, and Forepeaks, Steel" have no dew point restrictions – may be applied at relative humidity between 10 and 100 percent.

3.11.6.1 Tenting. If a Change Request has been authorized and released by the KO, provide suitable enclosure/tenting, to protect exterior surfaces from inclement weather.

3.11.6.2 Ambient condition control. If a Change Request has been authorized and released by the KO, do the following:

3.11.6.2.1 Provide suitable ambient condition control equipment, which may include, but not be limited to the below-listed, as applicable; to create and maintain ambient conditions recommended by the coating system's manufacturer, and facilitate successful coating application and curing:

- AC system.
- Heaters.
- Blowers.
- Dehumidifiers.

3.11.6.2.2 Submit an ambient condition control plan to the COR within 24 hours prior to commencing work.

3.11.7 Contrasting colors. Ensure that all coats in multi-coat systems, including stripe coats, are applied in contrasting colors.

3.11.8 Coating inspection. Inspect each applied paint coat to ensure that there are no misses, skips, runs, sags, overspray, underspray, dryspray, or other visible paint defects that will affect the performance of the coating system. Repair all defects.

3.11.9 Touch-ups and minor coating repairs. When performing touch-ups or minor coating repairs, adhere to the following guidelines:

3.11.9.1 Extent of touch-up area boundaries.

- Each area identified for touch-up preservation shall include the area itself and all attached framing, stiffeners, brackets, mounting plates/frames, pad eyes, ducting, piping, equipment support, etc., as applicable, up to three inches adjacent to the area to be painted.
- The total area designated shall account for the three-inch boundary segment wherein the repair is faired into the rounding intact coating system.

3.11.9.2 Surface preparation.

- Prepare surfaces in which mechanical damage extends into the substrate to bare metal in accordance with SSPC-SP 11; feather surrounding intact coating into the prepared areas, to create a smooth transition. Roughen all painted surfaces, to provide a suitable surface profile.
- Abrade areas where primer coat is exposed with 100-grit paper, and feather back to firm edge of existing topcoat finish.
- Perform solvent cleaning of all surfaces, in accordance with SSPC-SP 1.

3.11.9.3 Coating application.

- Hand brush, or in larger areas airless-spray apply applicable coatings, to match existing adjacent areas.
- Substitute epoxy or organic zinc primers for inorganic zinc primers, where applicable.

3.11.10 In-process quality control measures. The Contractor shall abide by the below-specified in-process quality control (QC) measures during preservation of "critical-coated surfaces" (see the definition of "Critical-coated surfaces" in Section 5.1 (Definitions)).

3.11.10.1 Painting contractor certification program requirement. Be aware that the Government now requires "QP 1 Certification", in accordance with the SSPC Painting Contractor Certification Programs, for all Contractors or sub-Contractors who engage in preservation (including touch-ups), of "critical-coated surfaces". Contractors involved in such tasks shall be "QP 1-Certified" prior to contract award, and shall remain so certified while accomplishing any surface preparation or painting of said surfaces. If the certification expires during the performance period, the Contractor will not be allowed to continue working until the certification has been reissued. Requests for extension of time for any delay to the completion of the project due to an inactive certification will not be considered. Notify the KO of any change in contractor certification status.

NOTICE!

Information on the SSPC certification programs can be found at *www.sspc.org*

3.11.10.2 Coating technical representative. In lieu of meeting the "QP 1 Certification" requirements, the Contractors may opt to provide the services of a coating technical representative (Tech Rep), in accordance with the following guidelines:

3.11.10.2.1 Qualifications. The Tech Rep shall be a Certified Coating Inspector, having successfully completed the "Level I", "Level II", and "Peer Review" NACE International Coating Inspector Program (CIP).

NOTICE!

Information regarding the CIP may be obtained at the following URL address: *www.nace.org*

3.11.10.2.2 Professional independence. The Tech Rep shall neither be an employee of the Contractor, nor of any coating system manufacturer.

3.11.10.3 QP 1 Inspector or Tech Rep duties. The Coating Inspector for the "QP 1-certified" Contractor or the Contractor-provided NACE-certified Tech Rep shall remain on site, to perform the following duties, as applicable, for each work item:

- Verify and approve the suitability of ambient conditions before surface preparation is begun, and before each coat of paint is applied.
- Verify instrument calibration.
- Inspect and approve final surface preparation, before application of primer coat.
- Supervise and approve coating system preparation and application procedures, including but not limited to: mixing and thinning, stripe coating application, spray techniques, and film thickness measurements and recordings.
- Determine when applied coats have sufficiently cured for overcoating, or for system service resumption (see 3.11.10.13 (Critical drying time requirements)).
- Complete and sign the quality assurance (QA) inspection forms (see QA-1 thru QA-5), provided at the end of this document.
- Submit all completed QA inspection forms to the COR (through the Contractor), upon completion of work.

3.11.10.4 Pre-surface preparation requirements. Prior to beginning all surface preparation tasks, accomplish the following:

3.11.10.4.1 Weld splatter removal. Remove all existing weld splatter, using a chipping hammer, spud bar, scraper, or grinder, as applicable.

3.11.10.4.2 Surface contaminant removal. Perform a low-pressure (maximum 3,000 psi) fresh water wash down of the surfaces, to remove all existing surface contaminants such as sea salts, grease and oil (hydrocarbons), loose rust, mud and marine growth, as applicable, and achieve the cleanliness requirements of SSPC-SP 1. Use vacuum to remove standing water followed by an adequate period of time to allow the surface to dry prior to surface preparation. When fresh water wash is not possible or practical, remove surface contaminants by one or a combination of solvent cleaning methods in accordance with SSPC-SP 1.

3.11.10.5 Post-surface preparation requirements. After surface preparation is completed, and before applying primer coating, accomplish the following:

3.11.10.5.1 Surface cleanliness evaluation – visual standards. In the presence of the Coast Guard Inspector, inspect resulting surface cleanliness level of prepared steel, using the requirements in the specified surface preparation standards in conjunction with visual/pictorial standards, as listed below:

SURFACE PREPARATION STANDARD	VISUAL GUIDE
Dry-abrasive blast cleaning: SSPC-SP 5/NACE No. 1, SSPC-SP 6/NACE No. 3, SSPC-SP 7/NACE No. 4, SSPC-SP 10/NACE No. 2, and SSPC-SP 14/NACE No. 8	SSPC-VIS 1
Wet-abrasive blast cleaning: SSPC-SP 6/NACE No. 3 and SSPC-SP 10/NACE No. 2	SSPC-VIS 5/NACE VIS 9
Hand Tool Cleaning: SSPC-SP 2, Power Tool Cleaning: SSPC-SP 3, SSPC-SP 11, and SSPC-SP 15	SSPC-VIS 3
Waterjetting (SSPC-SP 12/NACE No. 5).	SSPC-VIS 4/NACE VIS 7

3.11.10.5.2 Debris removal and disposal. Completely remove all dust and residues from the prepared surfaces by vacuuming. Do not brush or blow down the surfaces to remove dust and residues. Dispose of generated wastes in accordance with all applicable Federal, state, and local regulations.

3.11.10.5.3 Surface profile measurements. Measure the profile of the bare surfaces, in accordance with ASTM D4417, Method A or C.

3.11.10.5.4 Soluble salt conductivity measurements. Measure and document conductivity due to soluble salts, randomly over the prepared surfaces (take 5 measurements every 1,000 square feet or 5 total measurements for surfaces less than 1,000 square feet), using a suitable surface contamination analysis equipment, in accordance with ISO 8502-9.

3.11.10.5.5 Soluble salt removal. If salt conductivity measurements exceed the respective values in Table II (Soluble Salt Maximum Conductivity Threshold), accomplish the following:

- For surfaces prepared by abrasive-blasting, water-wash the affected areas, using fresh water, with a maximum of 5,000 psi. Remove all standing water, dry, and retest the affected areas. Repeat water-wash and retest until satisfactory levels are obtained.

NOTICE!

De-ionized water may have to be used in cases where available fresh water has excessive chloride/chlorine content.

- For surfaces prepared by water-jetting, resume water-jetting of affected areas. Remove all standing water, dry, and retest the affected areas. Resume water-jetting and retest until satisfactory levels are obtained.
- For power tool-cleaned surfaces, circle affected areas and perform spot solvent cleaning (Super High Flash Naphtha) followed by retest. Repeat spot solvent cleaning and retest until satisfactory results are obtained.
- For power tool-cleaned surfaces not practical for spot cleaning method, water wash said surfaces with copious amounts of fresh water, using hand scrub brush. Remove all standing water and dry the affected areas. Remove all flash rusting, if any, caused by the water wash by disk sanding affected areas with a #36 disk. Perform an SSPC-SP 1 solvent wipe on all sanded areas and retest. Repeat necessary steps until satisfactory levels are obtained.

TABLE II. SOLUBLE SALT MAXIMUM CONDUCTIVITY THRESHOLD.

SURFACES	CONDUCTIVITY (MICROSIEMENS/CM)
Submerged	30
Non-Submerged	70

3.11.10.5.6 Hydrocarbon removal. Remove all grease and oil surface contaminants by one or a combination of solvent cleaning methods in accordance with SSPC-SP 1.

NOTICE!

An ultraviolet light source may be used to detect the presence of hydrocarbons; however, for proper detection, artificial lights must be off for interior spaces, and the inspection must be conducted during darkness for surfaces exposed to sunlight. When hydrocarbons are present, the hydrocarbons will fluoresce as bright green, lime green, or blue/violet on the surface.

3.11.10.5.7 Flash rusting/surface oxidation limitations. Limit surfaces being preserved in size to an area that can be prepared and coated before flash rusting/surface oxidation occurs. If flash rusting or oxidation does occur before primer coat application, ensure the following:

- For surfaces prepared by water-jetting, the rust must be tight and adherent, and not exceed the “WJ-2L” (Very Thorough or Substantial Cleaning, Light Flash Rusting) requirement, in accordance with SSPC VIS 4/NACE No.7.
- For surfaces prepared by methods other than water-jetting, the rust or oxidation must be completely removed by abrasive-sweeping or mechanical cleaning.

3.11.10.6 Stripe coat application. After each primer coat has sufficiently cured for overcoating, apply an un-thinned coat of the same primer coating over all edges, weld seams, foot/hand holds (including inaccessible areas, such as back side of piping, under side of I-beams), and other mounting hardware (non-flat surface); apply stripe coat at three to four mils wet film thickness (WFT).

3.11.10.6.1 Ensure that the stripe coat encompasses all edges, as well as at least one-inch border outside each edge, and is neat in appearance. Minimize extra thickness applied to edges, as well as streaks and drops of paint.

3.11.10.6.2 For multi-coat systems with inorganic zinc as the primer coat, apply the stripe coat following the mist coat

application, using the same coating used for the mist coat.

3.11.10.7 Ventilation requirements for confined spaces. During preservation of confined spaces (confined spaces such Forepeak Compartments, voids, tanks…), ensure that the ventilation equipment, as required in paragraph 3.7.1.1 (Temporary ventilation) are in place and operating prior to the start of surface preparation through final curing of the coating system, to create one complete air change every four hours. In addition, ensure the following:

- Ventilation ductwork is placed at the bottom most and pocket locations in the space, to ensure complete solvent exhausting.
- Ventilation system remains in place until coating system final cure.

3.11.10.8 Coating system tests. In addition to the coating inspection requirements specified in paragraph 3.11.8 (Coating inspection), test each applied coat at random locations, using the test methods specified in Table III (Coating Test Methods).

3.11.10.8.1 Rework. Remove and re-apply coating in all areas where failure has occurred. If failure occurs in areas totaling 50 percent or more of the surfaces being preserved, remove and re-apply coating.

3.11.10.8.2 Repairs. Touch up all areas where coating has not failed, but has been disturbed by adhesion testing.

TABLE III. COATING TEST METHODS.

TEST	INSTRUMENT	SPECIAL INSTRUCTIONS
Wet film thickness (WFT)	Conventional notch type/with “teeth” WFT gage	Refer to ASTM D4414.
Dry film thickness (DFT)	Magnetic or eddy current gauge	Refer to SSPC-PA 2, for ferrous metal base; and ASTM D 1400, for non-ferrous metal base.
*Pinhole/holiday detection	Low voltage holiday detector	Refer to ASTM D5162.
*Adhesion	Tape	Refer to ASTM D3359, Method A.

***Primer coat only.**

3.11.10.10 Critical drying time requirements.

3.11.10.10.1 Potable and feed water tank systems. For potable and feed water tanks, ensure that drying time

between coats of specified systems are a minimum of 24 hours (@ 77 degrees F). Maintain the required temperature (use heated air, if necessary) and the continuous air flow/ventilation for at least seven days, before putting the tanks back in service. For touch-up preservation, observe the following curing requirements:

- 24 hours between coats and 24 hours (@ 77 degrees F), if the largest single touch-up area is less than one square foot, and the cumulative total touch-up area is less than four square feet.
- 24 hours between coats and 48 hours (@ 77 degrees F), if the largest single area is between one and two square feet, and the cumulative total touch-up area is less than ten square feet.
- 24 hours between coats and minimum seven full days (@ 77 degrees F), if any single area is greater than two square feet.

3.11.10.10.2 Underwater body antifouling systems. For underwater body antifouling systems, ensure curing time of minimum 5-8 hours (@ 77 degrees F), before vessels are re-floated.

3.12 Protective deck covering material.

3.12.1 General work space protection. During all availabilities, the Contractor shall provide suitable protective deck covering material over all vessel interior passageways, work areas, and living spaces used to access work sites on the vessel; ensure that the protective deck covering material is as follows:

- Fire resistant.
- Able to protect the deck from any contractor work.
- Durable.
- Anti-slip and anti-trip.
- Quick and easy to fit and remove.
- Waterproof and resistant to moisture and chemicals.
- Environmentally friendly and re-usable.
- Tear-resistant (does not rip when walked on).

3.12.2 Flight deck surface protection. For vessels equipped with a helicopter flight deck, cover the entire flight deck with

a temporary deck covering system, meeting the following criteria, when the flight deck will be used as a stage area, for frequent ingress and egress of equipment and Contractor personnel:

- Material and surfacing: Polyvinylchloride Compound (PVC), Diamond Plate Surface Pattern.
- Gauge: 5/32″.
- Stock sizes: 2′, 3′, and 4′ x 75′ rolls.
- Abrasion Resistance: ASTM D3884 - Test Results: 3.02 grams / 7.7% weight loss.
- Static COF: ASTM C 1028 - Test Results: 0.64
- Flammability: ASTM E 648 Critical Radiant Flux – Class I (greater than 0.45 watts/cm2), ASTM E 662 Smoke – 450 or less.

NOTICE!

Although there may be several available sources from which the Contractor may procure the temporary covering material for the flight deck surfaces, the below listed source is the only one known to the Coast Guard:

Continental Flooring Company, Inc.
Phone: (410) 750-2614
Web address: ***http://www.cfc4u.com/***

3.13 Housekeeping. The Contractor shall accomplish the following, in regards to housekeeping:

- Maintain good housekeeping conditions at all times, and provide adequate aisles and passageways in all work areas. Ensure that all staging platforms, ramps, stairways, walkways, aisles, and passageways on vessels or dry docks are kept clear of all tools, materials, and equipment except those that are in use, and all debris such as welding rod tips, bolts, nuts, and similar material; ensure that hoses and electric conductors are elevated over or placed under the walkway or working surfaces or covered by adequate crossover planks.
- Ensure that all working areas on or immediately surrounding vessels and dry docks, graving docks, or marine railways are kept reasonably free of debris, and construction material. Ensure that materials and debris do not present a hazard to personnel.
- Take action to mitigate any slippery condition on walkways or working surfaces.

- Maintain free access at all times to all exits and to all fire alarms or fire-extinguishing equipment.
- Keep all oils, paint thinners, solvents, waste, rags, or other flammable substances in fire resistant covered containers when not in use.
- Take care to prevent job site contamination by materials, equipment, and personnel; provide, when applicable, protective clothing and plastic shoe covers for all Contractor personnel and Coast Guard Inspectors, who must access the work areas, to prevent outside contamination. Upon completion of all work, remove equipment and material from the work site and restore all existing facilities affected by the work to original conditions.

3.14 Item/material disposal. During the availability, the Contractor shall dispose of, as scrap, all items or materials removed from the vessel that are not: reinstalled, retained and shipped by the Contractor to a Coast Guard authorized facility, or turned over to the Coast Guard Inspector. Ensure that all item/material disposals are in accordance with applicable Federal, state, and local regulations.

3.15 Restoration of damaged equipment. The Contractor shall restore, renew, or repair all machinery, piping, wiring, insulation, paint work, deck coverings, and any other article or component removed, moved, disturbed, or damaged by the Contractor in accomplishing the work outlined in the specification package.

3.16 Operational testing. The Contractor shall accomplish the following, in the presence of the COR, Port Engineer, or Coast Guard Inspector; when required in a particular work item, or when deemed necessary by the Coast Guard Inspector:

3.16.1 Pre-test. Perform an operational pre-test of all items or shipboard devices to be disturbed, used, repaired, or altered, to determine existing operational condition (see 5.2 (Equipment operation)).

3.16.2 Post-test. Thoroughly test and demonstrate proper operation of all items or shipboard devices disturbed, used, repaired, altered, furnished, or installed.

3.17 Dock and sea trials. The Contractor shall conduct dock trials and sea trials, in accordance with equipment manufacturer’s instructions, to test the work performed in the contract. Provide a schedule of all planned dock and sea trials in the submitted planning document (see 3.3 (Planning document)).

Include operational tests or inspections, as appropriate, of all machinery and equipment removed, moved, disturbed, or damaged by the Contractor in accomplishing the work outlined in the specification package.

3.18 Heavy weather plan. The Contractor shall provide a written heavy weather plan, which will be put in effect during gales, storms, hurricanes, and destructive weather, using the following guidelines:

3.18.1 Submission. Submit a copy of the plan to both the KO and COR, no later than the start of the contract availability period. Ensure that the heavy weather plan designates responsibility and implements procedures for preventing damage to Coast Guard vessels. Be aware that this includes periods:

- When vessels are physically located in private Contractor's shipyard.
- When work on vessels at Government facilities requires openings.
- When Contractor owned or furnished floating equipment is tied along side vessels.

3.18.2 Actions during specific weather conditions. The plan shall contain specific responsibilities and detailed actions to be taken during the conditions listed in Table IV.

Table IV. WEATHER CONDITIONS.

WEATHER	CONDITIONS **	WINDS (hours)	ACTION
GALE STORM/ HURRICANE	IV	▸72	Review hazardous/destructive weather implementation plan.
	III	▸48	Take preliminary precautions.
	II	▸24	Take precautions to permit establishing an appropriate state of readiness on short notice.
	I	▸12	Take appropriate precautions to minimize damage.
THUNDERSTORM/ TORNADO (Lightning and thunder are also anticipated)	II	◂6	Take precautions to permit establishing an appropriate state of readiness on short notice.
	I	◂0*	Take appropriate precautions to minimize damage.

▸Trend indicates a possible threat of destructive winds within the number of hours shown.

◄ Destructive winds accompanying the phenomenon indicated are reported or expected in the general area within the number of hours shown.
***IMMINENT**
****NOTICE**: The Vessel CO will set all conditions.**

3.18.3 Minimum inclusions. Ensure the plan contains, as a minimum, the following information as dictated by conditions listed in Table IV:

3.18.3.1 Windborne staging. Steps to be taken to remove or secure staging items or equipment on vessel decks, pier or dry dock, including cranes, that could become windborne.

3.18.3.2 Damaging floating equipment. Protection of vessels from damage from other floating equipment, such as barges, doughnuts, work floats and other vessels.

3.18.3.3 Emergency shipboard systems. Provisions for security, emergency fire and flooding protection, emergency shipboard dewatering and firemain capability, electrical power generation, and communication.

3.18.3.4 Vessel securing. Steps to be taken to secure the vessel to the Contractor's pier or drydock, including the following:

- Size, type, and number of lines to be used to secure the vessel.
- Sketch, showing location of all securing devices, including fenders, bumpers, and camels.
- Method to be used to check tension and slack in lines during heavy weather.

3.18.3.5 Watertight openings. Assurance that all openings are made watertight.

3.18.3.6 Floating pier securing. Steps to be taken to secure floating piers during high winds or high tides.

3.18.3.7 Single point of contact. The name and telephone number (business and residential) of the Contractor’s single point of contact, who has the authority to commit the contractor to take necessary actions as requested by the vessel’s CO.

3.18.3.8 Government property securing. Steps to be taken to secure and safeguard all other Government properties, including, but not limited to: removed interferences, GFEs, and MTI items.

4. QUALITY ASSURANCE

4.1 Tests and inspections. The Contractor shall perform the tests and inspections required in the work items, in the presence of either the COR, Coast Guard Inspector, or Port Engineer. Be aware that the Government reserves the right to perform any additional inspections deemed necessary to ensure the work conforms to the prescribed requirements.

5. NOTES

5.1 Definitions. For the extent of the ship repair availability, the Contractor shall refer to the following definitions whenever the terms are used in work items.

- "**ATON**": Aids to navigation.
- "**BLANKING**": Preclude the entry of foreign material, protect exposed threads or flanges, and remove blanks before reinstalling the system or component(s). Specific requirements of blanking equipment shall be in accordance with the individual work item(s).
- "**BOAT**": A Coast Guard ship less than 65 feet in length, with no permanent crew assigned.
- "**CERTIFY**": Produce a printed certificate.
- "**CFR**": A condition-found report submitted to the COR, either in written or electronic format, describing the condition(s) found while performing a task specified in the work item, such as an inspection. The Contractor is encouraged to generate and submit this in electronic format.
- "**CO/OFFICER IN CHARGE (OINC)**": The commanding officer or senior officer/officer in charge or the senior petty officer of a vessel.
- "**COR**": Contracting Officer's Representative; usually the CO or OinC of a vessel, or another representative designated by the Contracting Officer (KO).

- "**CRITICAL-COATED SURFACES**": Areas where premature failure of the coating system cannot be detected by routine observation due to inaccessibility, or areas where restoration of a failed system cannot be undertaken without laying up the ship at an industrial facility or a forward repair site; or areas where restoration of a failed system will subject a vessel to a loss of operational, in addition to resulting in avoidable repair costs. The list of "Critical-coated surfaces" is designated as follows, and may be augmented in individual work items:
    - Underwater body surfaces and appendages.
    - Freeboard.
    - Superstructure.
    - Masts.
    - Stacks.
    - Forepeak compartment.
    - Buoy deck.
    - Helicopter (flight) deck.
    - Weather decks.
    - Stern ramp, wet notch and door.
    - All tanks and voids.
    - Bilges.
    - Chain lockers.
    - Vent plenums ducts and trunks.
- "**CUTTER**": A Coast Guard ship 65 feet in length or greater, with permanent crew assigned.
- "**DISCARD**": Remove and dispose of as scrap.
- "**DFT**": Dry film thickness.
- "**FABRICATE**": Construct or make according to a plan or stated guide.
- "**FASTENER**": Includes all components for securing. For example, for bolting, the term fastener shall include bolts, nuts, threaded studs, and washers. Welded Studs are defined in Std Spec 0740_STD, Subsection 5.1.17 (Welded studs).

- "**FLEETING**": The re-floating and shifting of a vessel to an alternate docking position.
- "**HOTWORK**": Any activity involving riveting, welding, burning, the use of power-actuated tools or similar fire-producing operations. Grinding, drilling, abrasive blasting, or similar spark-producing operations are also considered hot work, except when such operations are isolated physically from any atmosphere containing more than 10 percent of the Lower Explosive Limit (LEL) of a flammable or combustible substance.
- "**INSPECT**": Examine an object or a space for defects, abnormalities, or deviations from a prescribed standard.
- "**INSTALL**": Permanently place in position, for example, by bolting or welding. When used without the term "Government-furnished", "install" implies that the Contractor must furnish what is to be installed.
- "**INTERFERENCES**": "Interferences" is defined as any part of a vessel, whether permanently installed or portable, that must be moved or disturbed, to accomplish work specified a work item; this may include machinery, piping ducts, wiring, insulation, structure, and anything else which interferes with proper accomplishment of a work item.
- "**MDE**": Main diesel engine.
- "**MDFT**": Minimum dry film thickness.
- "**OPEN**": To gain access or enter.
- "**PA**": Property administrator.
- "**REINSTALL**": Place back in original condition and location, after temporary removal.
- **"RENEW"**: Permanently remove an item and install, in its place, a new and unused item which is identical in material, form, fit, and function; the new item must:
    - Have the same shape, size, dimensions, and other physical parameters.
    - Have the same ability as the old item, to physically interface or interconnect with or become an integral part of another item.
    - Perform the same action or actions that the original item was designed to perform.

- "**REPAIR**": To correct an identified discrepancy to a given standard of performance.
- "**REPLACE**": To place again, or put a removed component back in original place; however, when used as "replace with", it implies substituting another component for the one removed.
- **"RESIDUAL FLUIDS" AND/OR "RESIDUES"**: Liquid, dirt, and other substance remaining after drainage or removal, such as in a tank after loss of suction by installed equipment.
- "**RESTORE**": To bring back to the former, original, or normal condition before alteration or removal.
- "**RESTRICTED INTERFERENCES**": Restricted interferences are systems, components of systems, and vessel components that are vital to the health, well-being, and feeding of the vessel's crew that, if removed, will result in a dangerous or hazardous condition to the vessel or the environment.
- **"SSDG"**: Ship's service diesel generator.
- "**VESSEL**": Vessel is defined as a Coast Guard ships cutter, tender, boat, or barge.

5.2 Equipment operation. Coast Guard personnel will operate all shipboard machinery and equipment during all operational, weight, and other required tests.

5.3 Vessel points of contact. At the Arrival Conference, the ship will provide lists of the following:

- Key personnel.
- Emergency phone numbers.
- Coast Guard Inspectors assigned to each work item.

5.4 Coast Guard Inspector responsibilities. Although the Contractor is responsible for applying appropriate quality control measures, the Coast Guard will witness the accomplishment of these measures. Therefore, a Coast Guard Inspector will:

- Monitor all work evolutions and keep informed of progress, to ensure that the specifications are being followed.
- Witness all tests, measurements, and inspections, as necessary.

5.6 MTI item documentation and shipping procedures. The Coast Guard PA will accomplish the following for each MTI item:

5.6.1 Call the ELC's MTI item Coordinator at (410) 762-6800, to receive a Return Authorization Control Number, to allow for the return of the item to ELC at no extra cost to the unit. See ELC Mandatory Turn-in Program on ELC's intranet web site @***http://cgweb.elcbalt.uscg.mil/docs/mti/mti.htm***

NOTICE!

All repairable items supported by the ELC are listed in various Support Grams published and advertised on ELC's intranet web site @ *http://cgweb.elcbalt.uscg.mil/docs/hmnesupport/hmnesupport.htm*.

5.6.2 Ensure the following is marked on the shipping crate:

- Item's Part Number, NSN, Serial Number (as applicable).
- Dimensions.
- Weight.
- "F Condition".
- Source Code/POC.
- Return Authorization Control Number.

5.6.3 Ensure that Shipping Document (DD-1348-1) is properly completed and securely attached to the crate.

5.6.4 Ship the crate, by "traceable means, to the following address:

Commanding Officer
Engineering Logistics Center
Coast Guard Yard (Receiving Bldg 86)
2401 Hawkins Point Road
Baltimore, MD 21226-1797

QA-1: QUALITY ASSURANCE INSPECTION FORM - PRESERVATION CHECKLIST

CHECKPOINT 1 – COATING SYSTEM COMPLIANCE	
	Ensure all coatings are in compliance with COMDTINST M10360.3, Appendix C.
CHECKPOINT 2 - PAINT STORAGE	
	Ensure all coatings are kept at a temperature of 65 to 85°F at all times, unless otherwise specified by the coating manufacturer(s).
CHECKPOINT 3 - AMBIENT CONDITIONS	
	Ensure surface and surrounding temperatures are each between 50 and 90°F for water-based coatings, and 35 and 95°F for other coatings, unless otherwise specified by the coating manufacturer(s).
	Ensure maximum relative humidity (RH) is as follows, from surface preparations through final curing of topcoat: 50% for tanks, voids, and vent plenum; and 85% for all other areas, unless otherwise specified by manufacturer(s).
	Ensure surface temperature is at least 5°F above the dew point, unless otherwise specified by the coating manufacturer(s).
CHECKPOINT 4 - PRE-SURFACE PREPARATION	
	Remove surface contaminants (soluble salts, loose rust, mud, and marine growth) with low pressure fresh water wash down (maximum 5,000 psi). If oil and grease are present, perform solvent cleaning, as per SSPC SP-1.
CHECKPOINT 5 - SURFACE PREPARATION	
	Verify environmental conditions (see CHECKPOINT 3).
	Ensure cleanliness of prepared surface is as per specification (i.e.: SSPC SP-12, SP-11, SP-10…).
	Verify surface anchor profile (1.5-3.5 mils for abrasive-blasted steel surfaces; 1.0 mil (minimum) for power-tool cleaned surfaces; 1.0-1.5 mils for abrasive-blasted aluminum surfaces); and 1.5 –2.5 for surfaces to be coated w/single coat of inorganic zinc).
	Measure soluble salt conductivity (5 measurements per 1000 sqft) – maximum threshold: 70 microsiemens/cm for non-submerged surfaces and 30 microsiemens/cm for submerged surfaces.
CHECKPOINT 6 - PRIMER COAT APPLICATION	
	Verify environmental conditions (see CHECKPOINT 3).
	Verify proper mixing and stand-in (induction) times.
	Ensure no paint is applied when the temperature is expected to drop to freezing before the paint has dried.
	Ensure surfaces are completely dry, unless otherwise allowed by the Coating Manufacturer(s).
	Verify wet film thickness at random, to prevent under or over application.
	Brush out all runs, sags, drips, and puddles.
	Perform visual inspection for holidays and other defects.
CHECKPOINT 7 – STRIPE COAT APPLICATION	
	Verify environmental conditions (see CHECKPOINT 3).
	Ensure overcoating window is as per manufacturer's instructions.
	After primer coat (mist coat after inorganic zinc), brush-apply un-thinned coat of same primer paint over edges, weld seams, cut-outs, and areas of complex geometries @ 3-4 mils wet film thickness (WFT).
CHECKPOINT 8 – TOP COAT APPLICATION	
	Verify environmental conditions (see CHECKPOINT 3).
	Ensure overcoating window is as per manufacturer's instructions.
	Verify proper mixing and stand-in (induction) times, as applicable.
	Verify wet film thickness at random, to prevent under or over application.
	Brush out all runs, sags, drips, and puddles.
CHECKPOINT 9 – FINAL INSPECTION	
	Verify final system dry film thickness.
	Verify system cure for service resumption - U/W Body surfaces: 5-8 hours @ 77 degrees F; Potable water tanks: 7 days @ 77 degrees F.
	Ensure potable water tank exhaust ventilation is maintained continuously from and during coating application through final system cure (minimum 7 days @ 77 degrees F.), to exhaust all solvent to the atmosphere and to prevent solvent entrapment.
CHECKPOINT 10 – RECORD KEEPING	
	Complete, sign, and submit all provided QA Inspection Forms.

Signature of Inspector:_____Date:_____

QA-2. <u>QUALITY ASSURANCE INSPECTION FORM</u>
<u>ENVIRONMENTAL READINGS</u>

(Use one sheet for each activity. Record conditions every four hours from before surface preparation to application of final coating system coat)

DATE	TIME	ENTER ACTIVITY *(Surface preparation, primer coat, barrier coat, top coat, etc…)*	LOCATION	DEW POINT	SURFACE TEMP.	% REL. HUMIDITY	SIGNATURE OF INSPECTOR

.**Signature of Inspector:_____Date:_____**

QA-3 QUALITY ASSURANCE INSPECTION FORM
SURFACE PROFILE LOG

Vessel Name And Hull Number:_____

Work Item Title:_____

Location Of Work (Including Frame Numbers):_____

Area (Square Feet):_____

Surface Preparation Method:_____

Abrasive Manufacturer And Size:_____

Degreasing Method Used:_____

Number Of Hours Surfaces (Steel Only) Left Unpainted:_____

Sweep blasting performed to remove flash rusting (steel)? Yes/No:_____

Place Surface Profile Replica Tapes In The Spaces Provided Below, To Serve As Permanent QA record. Maintain separate log for each area/location. When an Area Is Divided Into Separate Sections, Maintain A Separate Log for Each Section.		**AVERAGE MILS (IAW ASTM D4417, METHOD C)**
• Place Surface Profile Replica Tape Here Reading:_____ mils	• Place Surface Profile Replica Tape Here Reading:_____ mils	
• Place Surface Profile Replica Tape Here Reading:_____ mils	• Place Surface Profile Replica Tape Here Reading:_____ mils	
• Place Surface Profile Replica Tape Here Reading:_____ mils	• Place Surface Profile Replica Tape Here Reading:_____ mils	
• Place Surface Profile Replica Tape Here Reading:_____ mils	• Place Surface Profile Replica Tape Here Reading:_____ mils	

Date and Time:_____

Location of Surface Profile Measurements:_____

Signature of Inspector:_____

QA-4. QUALITY ASSURANCE INSPECTION FORM
SURFACE SOLUBLE SALT CONDUCTIVITY LOG

Vessel Name and Hull Number:_____

Work Item Title:_____

Location of Work (including frame numbers):_____

Area (square feet):_____

DATE	TEST LOCATIONS	CONDUCTIVITY (microsiemens/cm)

Date and Time:_____

Signature of Inspector:_____

QA-5. QUALITY ASSURANCE DATA FORM
DRY FILM THICKNESS (DFT) MEASUREMENTS IAW SSPC PA-2
(Use one sheet for each sequence)

Vessel Name and Hull Number:_____

Work Item Title:_____

Coating Manufacturer:_____

Product Name:_____

Batch Number:_____

Induction Time:_____

Coating System Sequence (Indicate whether: primer, touch-up primer, barrier coat, 3rd coat…):_____

DFT MEASUREMENT NUMBER	LOCATION OF READINGS	MEASURED DFT
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		

Application Method (Airless, Conventional Spray, Rolled):_____

Average DFT: _____

Date and Time: _____

Signature of Inspector: _____